

Title (en)

FLEXIBLE ELECTROLUMINESCENT DEVICES

Title (de)

FLEXIBLE ELEKTROLUMINESZENTE VORRICHTUNGEN

Title (fr)

DISPOSITIFS ÉLECTROLUMINESCENTS FLEXIBLES

Publication

**EP 3928361 A1 20211229 (EN)**

Application

**EP 20729252 A 20200417**

Priority

- US 201962836286 P 20190419
- US 2020028718 W 20200417

Abstract (en)

[origin: WO2020214930A1] Embodiments of a flexible electroluminescent (FEE) device are described. An FEE device includes a device stack with a quantum dot (QD) film configured to generate a first light having a first peak wavelength and a flexible substrate configured to support the device stack and emit a first portion of the first light. The FEE device further includes an encapsulation layer disposed on the device stack and an outcoupling layer disposed on the flexible substrate. The encapsulation layer can be configured to provide mechanical and environmental protection to the FEE device from moisture or oxygen. The outcoupling layer can be configured to prevent total internal reflection of a second portion of the first light within the flexible substrate and extract the second portion from the flexible substrate. The outcoupling layer can be further configured to eliminate air gaps at an interface between the outcoupling layer and a surface to be illuminated by the extracted second portion in response to the FEE device being substantially conformally placed on the surface.

IPC 8 full level

**H10K 99/00** (2023.01)

CPC (source: EP KR US)

**H10K 50/115** (2023.02 - EP KR US); **H10K 50/13** (2023.02 - EP KR); **H10K 50/858** (2023.02 - US); **H10K 59/873** (2023.02 - EP KR); **H10K 59/875** (2023.02 - EP KR); **H10K 71/00** (2023.02 - US); **H10K 77/111** (2023.02 - EP KR); **H10K 50/844** (2023.02 - US); **H10K 50/87** (2023.02 - US); **H10K 59/8794** (2023.02 - EP KR); **H10K 77/111** (2023.02 - US); **H10K 2102/311** (2023.02 - EP KR US)

Designated contracting state (EPC)

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Designated extension state (EPC)

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